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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

NGUYEN, STEVEN H D

ART UNIT	PAPER NUMBER
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2665

DATE MAILED: 11/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/985,683

Applicant(s)

HUI ET AL.

Examiner

Steven HD Nguyen

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6/29/05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 24-27 is/are allowed.
- 6) ☒ Claim(s) 1,5-13 and 17-22 is/are rejected.
- 7) ☒ Claim(s) 2-4,14-16 and 23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 5-13 and 17-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson (USP 6876663) in view of Oberman (US 200300262667).

Regarding claim 1, Johnson discloses network device comprising a credit counter configured to store a value indicating an amount of data eligible to be transmitted from the network device (Fig 3, Ref Credit counter); a request component configured to generate requests to send data and to receive corresponding grants in response to the requests (Fig 3, Ref connection request); the request component decrementing the credit counter when the requests are generated (Fig 3, Ref Credit is down) and incrementing the credit counter when grants are received (Fig 3, Ref Credit Up when receives grant). However, Johnson fails to disclose a fake request circuit configured to generate fake requests, the fake requests causing grants to be returned to the request component. In the same field of endeavor, Oberman discloses a fake request circuit configured to generate fake requests, the fake requests causing grants to be returned to the request component (Page 18, Sec [221] to [236] discloses a method and system for generating a request for credit value after detecting the link between the devices is unreliable by transmitting a credit synchronization from sender to receiver and receiving back a reply message at the sender in order to update credit counter).

Since, Oberman suggests that a method for synchronizing a credit value between the sender and receiver in order to correct the credit value when the credit message has been lost by unreliable link. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to apply a method for generating another request for credit value when the sender determines that the credit reply message has been lost as disclosed by Oberman into the system of Johnson. The motivation would have been to prevent data lost.

Regarding claim 5, Johnson discloses a grant pending queue for receiving data to be transmitted and notifying the request component of the arrival of the received data, the request component permitting the grant pending queue to transmit the received data to the switching fabric based on the received grants (Fig 3, Ref 62).

Regarding claim 6, Johnson discloses the request component delays sending the requests when the credit counter is below a minimum value (Col. 7, lines 25-27).

Regarding claim 7, Johnson discloses the request component does not increase the credit counter beyond a predetermined maximum value (Fig 3, Credit).

Regarding claim 8, Johnson discloses a request controller comprising a real request vector component configured to generate request messages corresponding to data that is to be transmitted to the network (Fig 3, Ref connection request); and to receive back grant messages indicating that the data can be transmitted to the network (Fig 3, Ref Grant). However, Johnson fails to disclose a fake request vector component configured to periodically generate a fake request message to a destination on the network determined by a value in a pointer register, the pointer register being incremented after each fake request message is generated. In the same field of endeavor, Oberman a fake request vector component configured to periodically generate

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a fake request message to a destination on the network determined by a value in a pointer register, the pointer register being incremented after each fake request message is generated (Page 18, Sec [221] to [236] discloses credit sync is period generated according to the sync-count register and increasing the sync-count value after transmitting the credit synch message).

Since, Oberman suggests that a method for synchronizing a credit value between the sender and receiver in order to correct the credit value when the credit message has been lost by unreliable link. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to apply a method for increasing the sync-count value after generating credit sync message as disclosed by Oberman into the system of Johnson. The motivation would have been to prevent data lost.

Regarding claim 9, Johnson discloses the network is a switching fabric (Fig 3, Ref 66).

Regarding claim 10, Oberman discloses the fake request vector component generates the fake request messages at intervals determined by a user programmable register (Page 18, Sec [228 or 224]).

Regarding claim 11, Johnson discloses the real request vector component generates the request messages in response to the data (Col. 6, lines 14-34).

Regarding claim 12, Johnson discloses the real request vector component further comprises a credit counter that is decremented by the real request vector component when the real request vector component generates a request message and incremented by the real request vector component when the real request vector component receives a grant message (Fig 3, Credit up when received grant and down when send a request).

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Regarding claim 13, Johnson discloses the real request vector component delays generation of request messages when the credit counter is below a predetermined value (Col. 7, lines 25-27).

Regarding claim 17, Oberman discloses the fake request vector generates the fake request messages at a rate based on a rate of loss of the network (Page 18, [221-222] discloses credit sync message is generated according the lost of credit message).

Regarding claim 18, Johnson discloses a method for receiving at least one data unit for transmission on the network (Fig 3, Ref 62); generating a request to transmit the data unit when a credit counter contains sufficient credits for the data unit (Fig 3, Ref connection request); decrementing the credit counter in response to generating the request to transmit the data unit (Fig 3, Ref Credit count is down); receiving grant messages from the network that correspond to the transmitted requests (Fig 3, Ref connection Grant), the grant messages indicating that the data unit may be transmitted on the network; incrementing the credit counter in response to receiving the grant messages (Fig 3, Ref Credit count up according connection grant for transmitting a data unit). However, Johnson fails to disclose periodically generating a fake request that does not correspond to a data unit, the fake request causing grant messages to be received from the network and the credit counter to be incremented in response thereto. In the same field of endeavor, Oberman discloses periodically generating a fake request that does not correspond to a data unit, the fake request causing grant messages to be received from the network and the credit counter to be incremented in response thereto (Page 18, Sec [221-236] discloses a method and system for periodically generating a request for credit value after detecting the link between the devices is unreliable by transmitting a credit synchronization from

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sender to receiver and receiving back a reply message at the sender in order to update credit counter).

Since, Oberman suggests that a method for synchronizing a credit value between the sender and receiver in order to correct the credit value when the credit message has been lost by unreliable link. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to apply a method for generating another request for credit value when the sender determines that the credit reply message has been lost as disclosed by Oberman into the system of Johnson. The motivation would have been to prevent data lost.

Regarding claim 19, Johnson discloses the network is a switching fabric (Fig 3, Ref 66).

Regarding claim 20, Oberman discloses the fake request vector generates the fake request messages at a rate based on a rate of loss of the network (Page 18, [221-222] discloses credit sync message is generated according the lost of credit message).

Regarding claim 21, Johnson discloses when the credit counter does not contain sufficient credits for the data cell, generation of the request to transmit the data unit is delayed until the credit counter has a value above a predetermined value (Col. 7, lines 25-27).

Regarding claim 22, Oberman discloses periodically generating the fake request further includes generating the fake request at predetermined times corresponding to a value stored in a user programmable register (Page 18, Sec [228 or 224]).

Allowable Subject Matter

3. Claims 2-4, 14-16 and 23 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As claims 2, 14 and 23, the prior arts fail to disclose an arbiter connected to the request component and to the fake request circuit, the arbiter combining the requests from the request component and the fake request circuit and transmitting the combined requests.

As claims 3 and 15, the prior arts fail to disclose the fake request circuit further comprises a programmable register for storing a user programmable value; a timing counter; a comparator connected to the programmable register and the timing counter, the comparator generating a signal based on the timing counter and the user programmable value stored in the programmable register, the signal clearing the timing counter; a pointer register configured to store destination information; and a fake request vector containing request information based on the value stored by the pointer register.

4. Claims 24-27 are allowed.

5. The following is a statement of reasons for the indication of allowable subject matter:

As claim 24, the prior arts fail to disclose a system comprising arbitration means for combining the request vector and the fake request vector and transmitting the combined request to the switch fabric within a combination of the limitations.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Ben-Nun (USP 5483526) discloses a method and system for transmitting a resynchronized message between the devices for synchronizing a credit value.

Shah (USP 6347337) discloses a method and system for generating a request for credit value in response to the data unit and waiting for credit value before sending the data unit.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven HD Nguyen whose telephone number is (571) 272-3159. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy D. Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Steven HD Nguyen
Primary Examiner
Art Unit 2665
10/30/05